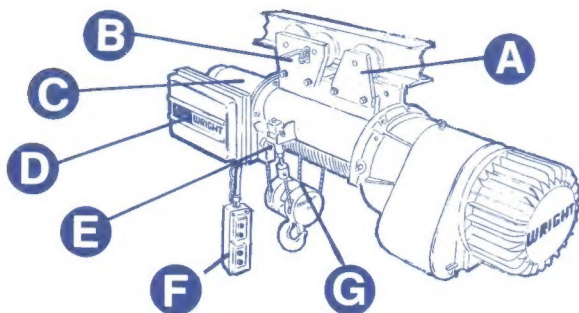


**WRIGHT®****WORK-RATED® ELECTRIC HOISTS  
MODIFICATIONS & ACCESSORIES  
FOR SECTIONS 30, 31, 33 & 34****INDEX AND CHECK LIST**

STD—Standard Equipment

OPT—Optional Equipment

APP—on Application *consult your nearest WRIGHT Representative***A TROLLEYS**

Straight Track Trolleys	STD	Single 4-wheel trolley and 4 PD reeved hoists will negotiate curve as specified.
Curved Track Trolleys	OPT	
Special Drop of Chain	OPT	
Patented Track Trolley	APP	
Bronze Wheels	APP	
Aluminum Hand Chain	APP	
DRIVES		
65 FPM Single Speed	STD	
125 FPM 5-Step Variable Speed	STD	
32 FPM Single Speed	OPT	
65/22 FPM Two Speed	OPT	
ACM	OPT	
AC Disc Type Trolley Brake	OPT	
Trolley Travel Limit Switch	OPT	
Trolleys for Large Flanges	OPT	
Nose Pieces for Patented Track Trolleys	OPT	
Ballast Resistors	OPT	

**B ELECTRIFICATION**

Collector Mounting Arm	OPT
"WRIGHT" collectors	OPT
Series C Collector	OPT
Tagline System Towing Arm	OPT
Power Supply Cable	OPT
Cable Reel	APP

**C MOTORS**

200-3-60 Power	STD	
230-3-60 Power	STD	
460-3-60 Power	STD	
575-3-60 Power	STD	
Special Voltage	OPT	
1800 RPM	STD	Except some models in product series 36.
Slow Speed	OPT	
High Temperature Insulation	OPT	
Special Environmental Insulation	OPT	
Motor Thermostat	OPT	
Motor Space Heater	OPT	
Hazardous Locations	APP	Single speed only.

**D CONTROLLERS**

CONTROL ENCLOSURES		
NEMA Type 3R	STD	
NEMA Type 4 & 12	OPT	
NEMA Type 7D	APP	Available in single speeds only.
NEMA Type 9E, F & G	APP	Available in single speeds only.
Motor Branch Circuit Fuse	STD	
Control Circuit Fuse	STD	
115 Volt Control Circuit	STD	
24 Volt Control Circuit	APP	
Thermal Overload Relays	OPT	
Mainline Contactor	OPT	
Control Space Heater	OPT	
Inching Control	OPT	Not available variable speed.
Timed Delayed Relays	OPT	
Oversize Transformers	OPT	
Extra Controllers	OPT	
Less Controllers	OPT	

Issued 4-1-87  
Supersedes 8-15-85

Dual Hoist & Trolley Control	APP
Customer Specified Controls	APP
Circuit Breakers	APP
Tri Speed Control	OPT

**E LIMIT SWITCHES**

Overload Cutoff Device	STD	Not available on single line hoist
Gravity Operated Limit Switch	STD	Not available on single line hoist
Geared Limit Switch	OPT	Must be added to single line hoist.
Power Circuit Limit Switch	OPT	Available only in NEMA Type 3R
Slack Cable Limit Switch	APP	
Overwrap Limit Switch	APP	

**F PUSH BUTTON STATIONS**

ENCLOSURES		
NEMA Type 3R	STD	
NEMA Type 4	STD	
NEMA Type 7D	OPT	
NEMA Type 9 E, F & G	OPT	
NEMA Type 12	STD	
Extra Push Buttons	OPT	
Push Button Deduction	OPT	
Extra Cord	OPT	
Special Nameplate Markings	OPT	
Push Button Balancer	OPT	For NEMA Type 3R. On application in NEMA Types 4, 7 & 9.
Outrigger Arm	APP	
Surface Mounted Station	APP	
Pilot Light	APP	

**G REEVEING**

HOOKS		
Spring Type Hook Latch	STD	
Gate or Swing Type Hook Latch	OPT	
Bronze Hook	APP	
Balancing	STD	On all cross mounted hoist. Option on parallel mounted.
Idler Sheaves	OPT	
Load Blocks	OPT	
Wire Rope	OPT	Single line hoist only.
Special Constructed Wire Ropes	APP	
Long Lifts	APP	
Acid Resistance	APP	
Hazardous Locations	APP	

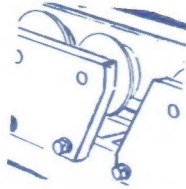
**H GENERAL POLICY**

Drawings (2 copies)	STD	Additional copies optional.
Testing	STD	
Service Manual (2 copies)	STD	Additional copies optional.
Special Painting	APP	
Export Packaging	APP	
Special Tagging	APP	

**NOTE:** The Accessories & Modifications not listed above are not available. The above items are sold as accessories only. The first two digits of the product number designates the hoist product series (3330710 is a product series 33).



## A TROLLEYS



### STRAIGHT TRACK TROLLEYS

Wright Work-rated wire rope electric hoists are furnished with plain, geared, or motorized trolleys standard as shown in Section 30. Those hoists shown with a single 4 wheel trolley and all 4 PD reeved hoists will negotiate curves as specified.

### CURVED TRACK TROLLEYS

Hoists are available with swivel trolleys to negotiate curves. Select the correct trolley hoist (plain, geared or motorized) from section 30. Using T1 dimension of this hoist go to section 135 and select correct curved track trolley arrangement.

### SPECIAL DROP OF CHAIN

Standard drop of hand chain is established by the lift of the equipment furnished. Special drops must be specified.

### PATENTED TRACK TROLLEYS

All Wright Work-rated wire rope hoists except 36 Series are available on application with trolleys to operate on patented track monorail systems. Note: Minimum flange width is 3.25 inches.

### BRONZE WHEEL

Bronze trolley wheels are available on application.

### ALUMINUM HAND CHAIN

Standard hand chain is zinc peen plated. Aluminum hand chain is available as optional equipment.

### TROLLEY DRIVE

Standard trolley drive speeds are 65 FPM single speed and 125 FPM 5 step variable speed. Additional trolley drive speed of 32 FPM single speed is available as optional equipment. Two speed trolley drive at 65/22 FPM is also available as optional equipment.

### ACM (ACCELERATION CONTROL MODULE)

ACM may be added as optional equipment to single speed motorized trolleys up to 2 HP to provide smooth acceleration and load control. See Acco Bulletin HC 102.

125 FPM single speed is available only with ACM limited to a combined motor rating of 2 HP.

### AC DISC TYPE TROLLEY BRAKE

An AC disc type trolley brake is available on all trolley drives as optional equipment.

### TROLLEY TRAVEL LIMIT SWITCH

The trolley travel limit switch is available as optional equipment for all motorized trolleys. The switch may be purchased mounted and wired at additional cost, or furnished loose for mounting and wiring by others.

A trolley brake is recommended for the trolley to prevent overtravel when a trolley travel limit switch is used.

### TROLLEYS FOR LARGE FLANGES

Trolleys are available for straight or curved beam systems up to a maximum flange width of 10 1/2 inches. Greater flange widths on application.

### NOSE PIECES FOR PATENTED TRACK TROLLEYS

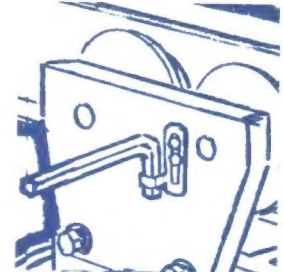
Nose pieces designed for use with most patented track manufacturers trolleys consist of solid steel bars welded to frames of close headroom cross mounted hoists in two part double (2PD) reeved configuration. Bars are designed to permit field mounting of most patented track trolleys. Trolley model numbers must be provided at time of order.

### BALLAST RESISTORS

Ballast resistors supplied with motorized trolleys increase the accelerating time, providing a smoother start. Resistors are inserted in the power lines to an induction motor, reducing the voltage when starting; in turn reducing the

torque, thereby increasing the motor accelerating time allowing the motor to come up to speed smoothly. Ballast resistors will vary in operation if load is not constant; at less than 100% load, the effect of the resistors is less noticeable because the torque is excessive and acceleration is greatly increased. Resistors are field adjustable for desired degree of "softness." Resistors are enclosed in a louvered enclosure suitable for NEMA 3R applications.

## B ELECTRIFICATION



### CURRENT REQUIREMENT CHART

Because of the wide variety of ways to connect a hoist to an electrical system, the basic price of a hoist does not include any collectors or power cord. Selection of an electrification system is dependent upon many factors such as current carrying capacity, special environments, and length. To determine the current carrying capacity required for the electrical system obtain the full load amps of all the motors involved from the following table. Total the amperage and then select the proper electrification system.

HP	RPM	Approx. Full Load Current			
		200V	230V	460V	575V
1/4	1800	1.10	0.96	0.48	0.38
	1200	1.33	1.16	0.58	0.46
	900	1.67	1.45	0.73	0.58
1/2	1800	1.33	1.16	0.58	0.47
	1200	1.64	1.43	0.72	0.58
	900	2.01	1.75	0.88	0.71
3/4	1800	1.93	1.68	0.84	0.67
	1200	2.38	2.07	1.04	0.83
	900	3.34	2.90	1.45	1.16
1	1800	2.68	2.33	1.17	0.93
	1200	3.28	2.85	1.43	1.14
	900	3.97	3.45	1.73	1.38
1 1/2	1800	3.51	3.05	1.53	1.22
	1200	4.07	3.54	1.77	1.42
	900	4.30	3.74	1.87	1.50
2	1800	4.92	4.28	2.14	1.71
	1200	5.58	4.85	2.43	1.94
	900	6.68	5.81	2.91	2.32
3	1800	6.62	5.76	2.88	2.30
	1200	7.30	6.35	3.18	2.54
	900	8.29	7.21	3.61	2.88
5	1800	9.53	8.29	4.14	3.32
	1200	10.3	8.92	4.46	3.56
	900	11.7	10.20	5.09	4.08
7 1/2	1800	15.2	13.2	6.60	5.28
	1200	16.2	14.1	7.05	5.64
	900	17.9	15.6	7.80	6.24
10	1800	22.2	19.3	9.7	7.72
	1200	23.3	20.3	10.2	8.12
	900	27.4	23.8	11.9	9.51
15	1800	29.0	25.2	12.6	10.1
	1200	30.6	26.6	13.3	10.6
	900	33.2	28.0	14.5	11.6
20	1800	43.8	38.1	19.1	15.2
	1200	45.9	39.9	20.0	16.0
	900	58.1	50.5	25.3	20.2
25	1800	59.5	51.7	25.9	20.6
	1200	72.1	62.7	31.3	25.0
	900	74.4	64.7	32.3	25.8

Standard lifting speeds are based on 1800 RPM motors, except for some models in product series 36.

The average full current values listed are for 3 phase, 60 Hertz AC induction horsepower rated motors. They are the most common voltage and speed rating of several manufacturers and are to be used *only* as a guide for selecting suitable components for the motor branch circuit.





## WRIGHT WORK-RATED ELECTRIC HOIST MODIFICATIONS & ACCESSORIES

35-3  
Issued 4-1-87

### COLLECTOR MOUNTING ARM

Standard collector mounting arms with bracket are available as an optional equipment for all hoists and are necessary for attaching collectors to the hoist. The location and length of the arm is dependent upon the number of collectors required, the size of the runway beam, balance of the hoist and other mechanical considerations.

### WRIGHT COLLECTOR

Wright collectors are available as optional equipment. Collector is 2 pole, 20 AMP, 600 volts. Higher current requires use of two collectors in tandem.

### SERIES C COLLECTORS

Series "C" collectors are available as optional equipment. Collector is 1 pole, 70 AMPS, 600 volts.

### TAGLINE SYSTEM TOWING ARM

Hoists are available with a pull bracket and junction box assembly as optional equipment for use with tagline systems that are commonly found on cranes. This option consists of an extended arm mounted from the trolley side plate and a junction box on the end of the arm to allow for single point connection of the festooned conductors.

### POWER SUPPLY CABLE

Hoists can be furnished with power supply cable connected to the hoist as optional equipment. Power plugs are not included. Plugs can be furnished on application by properly specifying the type required.

Two factors contribute to the selection of the proper size power cord: the maximum current rating of the cord itself as established by the NEC and the voltage drop within the cord is determined by its length. In general, the voltage drop does not need to be considered if cord lengths are 50 feet or less.

Select cord from table below. Specify length required:

Wire Size	Max. Amps*
= 14	15
= 12	20
= 10	25
= 8	35
= 6	45

\* Based on three current carrying conductors.  
Power supply cables are Type SO-600 volts.

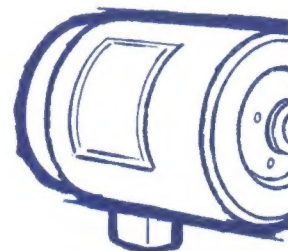
### CABLE REELS

Standard heavy duty cable reels are available on application for use with hoists. Reels are water and dust tight, and comply with the intent of NEMA Types 3R, 4 and 12 specifications. Reels are shipped loose for customer's mounting.

State amount of travel, location of reel in relation to the overall systems, and amperage required, and hoist product number.



## MOTORS



### STANDARD MOTORS

Wright standard motors are in totally enclosed non-ventilated frames. They are suitable for use in most indoor and outdoor locations without any modifications. All 230/460 volts, single speed and variable speed motors are reconnectable. Two speed motors are 1800/600 RPM and are not reconnectable.

The supply of voltage must be known in order to select the proper motor. The motor nameplate voltage will normally be less than the nominal power system voltage. A joint committee of the Edison Electric Institute and NEMA has recommended standards for both power system voltage and motor nameplate voltages which are as follows:

POLYPHASE 60-HERTZ	
Nominal Power System Volts	NEMA Standard Motor Nameplate Volts
208	200
240	230
480	460
600	575

### SPECIAL VOLTAGES

For any voltage other than the NEMA standard motor nameplate voltages shown above, the motor will have to be specially wound, and is available as optional equipment.

### SLOW SPEED

Slow speed, 900 RPM motors are available as optional equipment to reduce the minimum lifting speeds. These motors are available for single speed and variable speed applications only. Standard lifting speeds are based on 1800 RPM motors, except for some models in Product series 36. When applying a 900 RPM motor, the lifting speed and motor HP are reduced proportionately.

### HIGH TEMPERATURE INSULATION

Insulations are classified by their ability to withstand a specified temperature for a specified length of time without deteriorating.

The total allowable temperature is the sum of the ambient temperature in which the motor operates plus the heat generated by the motor.

Class of Insulation	Max. Allowable Ambient	Motor Nameplate Temperature Rise	Total Observable Temperature
B	60°C	55°C	115°C
F	80°C	55°C	135°C
H	100°C	55°C	155°C

Wright standard motors use Class B insulation (55°C temperature rise over a 60°C ambient). Class F & H insulated motors are available as optional equipment.

Special voltages, slow speed motors, high temperature insulations, are not available for hazardous locations.

### SPECIAL ENVIRONMENTAL INSULATION

Super Class "B" insulation is recommended where motor windings may be exposed to one or more of the following conditions and is available optional equipment.

(When ordering specify conditions applying.)

- High humidity and fungus (tropical protection).



- Steam, excess moisture from vapor, splashing, or dripping water (e.g. dry house or packing plant).
- Excessive amounts of acid or alkali vapor, fumes, or dust (e.g. chemical plant).
- Conducting or abrasive dusts (e.g. cast iron dust, carbon, graphite, coke, etc.).
- A combination of conducting or abrasive dusts with sulphur fumes, moisture, etc. (e.g. power house or boiler room).

#### MOTOR THERMOSTAT

A bi-metallic, automatic thermostat is available as optional equipment. It is built into the motor windings causing the motor control to be de-energized when winding temperature of the motor exceeds it's limit. It provides full running protection against overheating caused by:

Gradual overloads, plugging duty, increase in ambient temperature, jogging or obstruction of normal ventilating passages or separate sources of ventilation; variation in line voltage; any overheating in which the temperature is gradual.

This thermostat provides additional motor running over-current protection beyond that furnished as part of the standard time delay branch circuit fuses.

It is not available when the standard TENV motors are used for Division 2 hazardous locations.

#### MOTOR SPACE HEATER

A motor spaceheater is available as optional equipment. They prevent moisture condensation on the windings inside a motor after shutdown and/or during prolonged periods of idleness. Recommended on hoists using tropical insulation, to reduce condensation.

Motor heaters are rated for 120 volts, single phase. The wattage varies with motor frame size. Standard practice is to wire the motor heater to the control transformer which requires an increase in transformer size. Additional circuitry is provided to interrupt power to the heater whenever the motor is running.

#### HAZARDOUS LOCATIONS

A COMPLETE designation of classification is required and should be obtained from the local enforcing agency. As specified by the NEC, UL listed motors are required for Division 1 (hazardous locations). If the requirement is for Division 2 location, the WRIGHT standard TENV squirrel cage single speed or two speed motor will be used. However, standard controls are not suitable for Division II location. (See controllers).

## D CONTROLLERS



#### GENERAL

A controller is an assembly of electro-mechanical contactors and/or relays mounted on a panel and housed in an appropriate enclosure for the purpose of supplying power to a motor or motors in the proper manner and sequence.

Product series 32 thru 36 include as standard equipment a controller of ample capacity for the motors and brakes where required. Each controller of product series 32, 33, 34, 35 and 36 is protected by motor branch circuit fuses and control circuit fuses as standard.

This controller is housed in an enclosure to meet the intent of NEMA Type 3R, suitable for outdoor use as standard. An isolating transformer reduces the supply voltage to 115 volts for standard control circuits. All wiring is done in a manner that meets or exceeds CSA standards and the National Electric Code, as interpreted by the Hoist Manufacturer's Institute and Material Handling Group of Acco.

Although the standard controller is designed to meet the great majority of applications, many options are available. These options fall into three basic categories—options to meet specific environmental conditions, standard control options to meet code specifications or system functions, and special options engineered for special applications.

#### CONTROL ENCLOSURES

A control enclosure performs two basic functions. First it is a convenient method of mounting control devices in a group for assembly, inspection, and repair. Secondly it protects personnel against accidental contact with enclosed electrical devices, and internal devices against specified external conditions.

Enclosures are classed by the protection they are designed to afford, and in this country are referred to as NEMA types. Two general categories are enclosures for nonhazardous locations and for hazardous locations. The types most frequently used by the hoist and crane industry and some sample applications are listed below:

**NEMA designation for enclosures used throughout these pages, conforms to the intent of NEMA as interpreted by the Material Handling Group of Acco Babcock Inc. for hoist and crane service.**

Provides Protection Against	NONHAZARDOUS LOCATIONS			
	1*	3R*	4	12*
Accidental contact with enclosed equip. . . . .	yes	yes	yes	yes
Falling dirt . . . . .	yes	yes	yes	yes
Falling liquids and light splashing . . . . .	yes	yes	yes	yes
Dust, lint, fibers and flyings . . . . .	yes	yes	yes	yes
Hosedown and splashing water . . . . .	yes	yes	yes	yes
Rain, snow and sleet . . . . .	yes	yes	yes	yes
Windblown dust . . . . .	yes	yes	yes	yes

\* These enclosures may be ventilated. However, Type 1 may not provide protection against small particles of falling dirt when ventilation is provided in the enclosure top and Type 12, if ventilated, will not be dusttight.

Provides Protection Against	HAZARDOUS LOCATIONS					
	Class*	Group*	Type of Enclosure			
			7D	9E	9F	9G
Gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, natural gas, lacquer solvents . . . . .	I	D	yes	...	...	...
Metal Dust . . . . .	II	E	...	yes	...	...
Carbon black, coal dust, coke dust . . . . .	II	F	...	...	yes	...
Flour, starch, grain dust . . . . .	II	G	...	...	yes	yes

\* As described in Article 500 of the National Electrical Code.



## D CONTROLLERS (Continued)

NEMA TYPE	WRIGHT AVAILABILITY	DESCRIPTION	APPLICATIONS
NEMA TYPE 1 General Purpose NEMA TYPE 3R Weather Resistant	No longer used  Standard equipment	Indoor use only, where surrounding conditions are fairly clean and dry.  Suitable for all outdoor applications except in hazardous locations. Ventilated types do not protect against windblown dust. Most indoor applications except hazardous locations or where cleaning requires hosedown.	Light-clean, stockroom  Loading docks, outdoor storage areas, shipyard or marina, warehouses, fabricating and assembly areas, repair shops, power plants, etc.
NEMA TYPE 4* Water- tight and Dust- tight — Indoor & Outdoor	Standard Option	Suitable for all indoor or outdoor applications except hazardous locations. Offers protection where cleaning requires hosing down.	Tanneries, dairies, food processing plants, breweries, pump houses.
NEMA TYPE 12 Industrial Dusttight* and Driptight	**Standard Option	Suitable for indoor use where fibers, lint, dust, splashing, oil seepage and dripping may be present.	Machine shops using coolants, grinding rooms, and other industries where "dirty" conditions exist.

\* If variable speed resistors type control or single speed control with ballast resistors is specified to be NEMA Type 4 or 12, the enclosure for the resistor will not be watertight or dusttight due to the ventilation required.  
\*\* The standard modification to Wright enclosures to meet NEMA Type 12 specifications does not include hinges for the cover, but utilizes flexible straps instead.

Enclosures for hazardous locations are specially designed to meet application requirements of the National Electric Code and in accordance with the latest specifications of the Underwriters Laboratories Inc. Required class, group, and types must be specified. Wright can supply, at additional cost, Type 7, Class I, Group D; Type 9, Class II, Groups E, F, and G.

The enclosure on product series 32 thru 36, is weather-tight and provides suitable protection for the greatest majority of outdoor and indoor applications. However, if severe conditions demand, NEMA Types 4 & 12 are available as optional equipment. NEMA Type 7 & 9 are available on application.

## MOTOR BRANCH FUSES

Standard on all product series.

The National Electric Code requirements for both short-circuit or ground fault protection, and running overcurrent protection can be met with branch circuit fuses. Wright standard fuses are dual element, time delay type (Fusetrons).

For hoists with motorized trolley, fuses are also required for the trolley controller.

## CONTROL CIRCUIT FUSE

A single fuse connected in the secondary winding of the control transformer is standard.

## 24 VOLT CONTROL CIRCUIT

Standard control circuit voltage on all hoists is 115 volts. Twenty-four volt is available on application on all product lines.

## THERMAL OVERLOAD RELAYS

Branch circuit fuses furnished as standard equipment on all product lines meet the intent of the NEC for motor running overcurrent protection. User specifications may dictate the use of thermal overload relays. These can be supplied as optional equipment on all units. Standard arrangement includes three elements per motor winding.

## MAINLINE CONTACTOR

A mainline contactor is used to shut-off power circuits of equipment. An on-off push button is required to operate the contactor. The on-off push button can be either of two types, a momentary contact type (Acco standard) or a maintained contact type.

The momentary contact type on-off push button requires two additional push button wires. This connection of the contactor control circuit offers under voltage protection to the equipment. A momentary loss of power will require the operator to push the on button in order to reset the contactor.

With the maintained contact type on-off push button only one additional push button wire is required. This arrangement does not provide under voltage protection since the on button remains depressed until the off button is depressed.

In both types of push button circuits the control circuit remains "live" when the mainline contactor is off.

A mainline contactor is optional equipment on all units. If it is ordered with a hoist or hoist and trolley control, the contactor will be mounted in the enclosure with the hoist control. If an order indicates the hoist is to operate on a crane, or if the order specifies a bridge controller, the mainline contactor and the bridge control will be shipped in an enclosure to be mounted by others.

The size of the mainline contactor is determined from the following table:

Size	Volts	Maximum HP	
		One Motor	All Motors
1	200-240	7.5	10
	440-600	10	20
2	200-240	15	20
	440-600	20	30

## CONTROL SPACE HEATER

Control space heaters are optional equipment for the prevention of moisture condensation on the components inside the control enclosure after shutdown and/or during prolonged periods of idleness. Recommended on hoists using tropical protection or in other high humidity locations. Space heaters are rated for 120 volts single phase. The wattage varies with control enclosure size. Standard Acco practice is to wire the space heater to the control transformer which requires an increase in transformer size. The heater remains energized as long as power is maintained at the power input terminal of the hoist.

## INCHING CONTROL

Available as optional equipment, inching controls requires jog-rated NEMA Type contactors and a protective thermostat in the motor. An extra set of push buttons is wired to actuate an adjustable timer, preset for as little as a fraction of a second, to restrict travel to a predetermined short distance. Push buttons must be pressed, held to completion of movement, and released for each increment of motion required. Available in single speed and two speed, which works in conjunction with the lesser of the two speeds. This type of control is not practical for variable speed motors.

Inching controls is not available on hoists for explosive atmosphere.



#### **TIME DELAY RELAYS**

Time delay relays are optional equipment as adjustable plug-in type, on all units. They are used to control acceleration of two speed and variable speed motors regardless of push button depression. One time delay is used for two speed control and two are used for variable speed control. Adjusting range of each delay is from one tenth of a second to ten seconds.

#### **OVERSIZE TRANSFORMERS**

Transformers furnished on all units are of sufficient capacity for the complete control circuit provided. Oversize transformers to provide additional capacity for use with additional controllers mounted by others are available as optional equipment.

#### **EXTRA CONTROLLERS**

Extra controllers are available as optional equipment for motors supplied by others. These controllers will consist of reversing contactors, adequate transformer capacity, accelerating contactors and resistors where required, all panel mounted in appropriate enclosures. These enclosures will be mounted on the hoist where space permits standard mounting, otherwise complete assembly will be shipped loose for customer mounting. Motor secondary data must be supplied by customer for variable speed controls. Motor currents must also be supplied if customer orders such options as branch circuit fuses or thermal overload relays.

#### **LESS CONTROLLER**

All hoists can be furnished less standard controllers. Price deduction can be found in Section 135—Hoist Accessories.

#### **DUAL HOIST & TROLLEY CONTROLS**

A three position selector switch can be furnished on application for simultaneous or individual control of two hoists and/or trolleys from one push button station. Dual hoist and/or trolley control is not practical for variable speed applications.

#### **CUSTOMER SPECIFIED CONTROLS**

All single, two speed and all variable speed controls are specially designed for hoist and crane duty. Customer specified controls other than those outlined above are available on application.

#### **CIRCUIT BREAKERS**

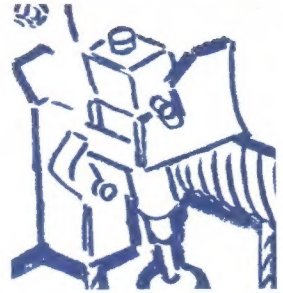
Molded case thermal and fixed magnetic trip circuit breakers are available on application on all units in lieu of standard branch circuit fuses. Circuit breakers are 3 poles, have a common trip and are mounted on control panels. No external reset is provided. Circuit breakers are not capable of interrupting high magnitude short circuits like that of time delay fuses. Wright standard branch circuit fuses provide the better protection.

#### **TRI SPEED CONTROL SCM III**

Tri speed hoist control is a system of motor, controller, and push buttons producing three lifting and lowering speeds relatively constant within hoist capacity. Speeds are 10%, 33% and 100% of rated load speed. 33 and 100% speeds are operator controlled by a pair of standard two speed buttons. The 10% speed is controlled by an additional pair of single speed buttons marked "Creep-Up" and "Creep-Down." The control is a standard two speed control plus a solid state speed control module, contactor and a tachometer circuit. Controller is in a NEMA Type 3R enclosure with NEMA Types 4 and 12 available as optional extras. Standard features include branch circuit fuse protection and control transformer with fused secondary.



## **LIMIT SWITCHES**



#### **GENERAL**

Several types of limit switches are available on Wright Hoists. Two or more types may perform the same end function, but in a different manner. Some may be used in combination. Types of limit switches are: hoist hook travel limit switches, such as, weight operated, paddle operated, geared, or power circuit; and overload cutoff device.

In general, the type reeving and suspension usually determines the type of hoist limit switch supplied as standard equipment.

Other considerations, such as environmental may determine the type of limit switch. For example, certain types cannot be used in explosive environments.

#### **OVERLOAD CUTOFF DEVICE**

The patented Wright overload cutoff device is furnished as standard equipment on all product series except single line hoists.

#### **GRAVITY OPERATED LIMIT SWITCH**

Applications requiring repeated useage of an upper limit switch should use a geared limit switch with the gravity type limit switch retained as a backup.

#### **GEARED LIMIT SWITCH**

A geared limit switch provides upper and lower limits of hook travel and is available as optional equipment on all hoist. The standard gravity limit switch is furnished in addition to the geared limit switch.

The geared limit switch is available with 2 or 4 circuits. If a 4 circuit limit switch is ordered, two circuits will be utilized for top and bottom limits, and the remaining two are wired to a terminal board on the controller for use by the customer.

Geared limit switches are available as optional equipment in various NEMA type enclosures.

#### **POWER CIRCUIT LIMIT SWITCH**

The power circuit limit switch is optional equipment in NEMA Type 1, 3R or 4 enclosure only on all product series. It is recommended that the geared limit switch be used in addition to the power circuit limit switch. The gravity type limit switch is not furnished with power circuit limit switch.

Hoist clearance dimensions will be affected.

#### **SLACK CABLE LIMIT SWITCH**

A slack cable limit switch is available on application.

#### **OVERWRAP LIMIT SWITCH**

An overwrap limit switch is available on application.



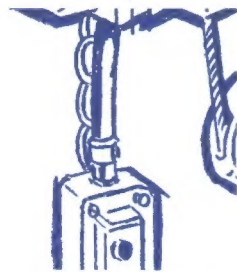


## WRIGHT WORK-RATED ELECTRIC HOIST MODIFICATIONS & ACCESSORIES

35-7  
Issued 4-1-87



### PUSH BUTTON STATION



#### GENERAL

All standard push button station assemblies on all hoist are NEMA Type 3R, 4 & 12 enclosures. The following type of interiors are available:

- Single Speed (SS) with normally open contacts.
- Two Speed (2S) with normally open, cumulative contacts.
- Variable Speed (VS) with 5 normally open, cumulative contacts.
- Start-stop (MLC) with one normally open and one normally closed contact.

The assembly includes a plated strain relief chain. Standard drops of pendent stations are adjusted to suit the full working range of the hoist hook.

#### ENCLOSURES

All hoists are available with push button stations with NEMA Types 7 and 9 enclosures as optional equipment.

#### EXTRA PUSH BUTTONS

All hoists are available with extra push buttons as optional equipment for customer supplied controls, or for Wright standard controls not mounted on the hoist. The wires for the extra push buttons will be plainly marked per *Wright* wiring standards and terminated in the hoist control enclosure.

When orders include electrification systems the extra push button wires are connected to that system.

#### PUSH BUTTON DEDUCTION

All hoists are available less push button assemblies. Price deduction can be found in section 135 hoist accessories.

#### EXTRA CORD

All hoists are available with optional extra length push button cord as optional equipment.

#### SPECIAL NAMEPLATE MARKINGS

All hoist are available with customer specified markings at extra cost. The following is a list of standard push button markings:

START-STOP  
HOIST-UP-DOWN  
TROLLEY-FORWARD-REVERSE  
BRIDGE-FORWARD-REVERSE

#### PUSH BUTTON BALANCER

Balancers for NEMA 3R push buttons which permit lengthening or shortening of the push button station position are available as optional equipment for raising the push button station when not in use.

Push button station height may be held at any position. Maximum drop of push button must be specified.

Balancers for NEMA Type 4, 7, 9 & 12 are available on application.

#### OUTRIGGER ARM

Rigid outrigger arms mounted perpendicular to the beam are available on application. Outrigger arms permit the operation of the push button station away from the center of the hoist. Length of outrigger and position desired must be furnished to establish price for this feature.

#### SURFACE MOUNTED STATION

Surface mounted push button stations are available on application. They are furnished loose for customer mounting and are less cord and strain chain.

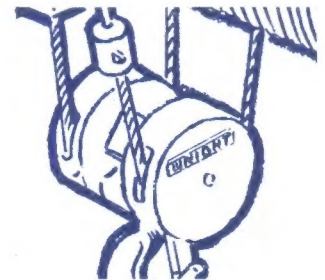
State number of buttons, type of control, and type of enclosure.

#### PILOT LIGHT

All push button stations are available on application with a pilot light to indicate power on. Standard connection is to have the pilot light energized as long as power is maintained at the power terminals of the hoist. The pilot light will have a green lens and will be marked "Power On."



### REEVING



#### HOOKS

Hooks with spring type latches are standard on all hoists.

Hooks with gate or swing type latches are available as optional equipment.

Bronze hooks with spring type latches are available on application.

#### BALANCING

All cross mounted hoists furnished with standard motors and controllers are balanced at the factory. Adjustment is provided so the user may balance the hoist if alterations are made in the field.

All parallel mounted hoists furnished with standard motor and control do not require balancing. However, balancing may be necessary for patented track applications or when hoist is furnished with rigid outrigger arm, hazardous location equipment, or other modifications or accessories.

#### IDLER SHEAVES

Idler sheaves are available as accessories for single line hoist applications. Rope size must be specified.

#### LOAD BLOCK

Load block assemblies are offered as an accessory to a winch only and do not apply to repair parts for hoists. Hooks with spring type latches are supplied as standard. Gate or swing type latches are available.

#### WIRE ROPE

Standard wire rope on all hoists is 6 x 37 construction, performed improved plow steel or extra improved plow steel.

Cable fittings on all wire rope hoists are designed for easy installation and are swaged on to provide maximum security.

Wire rope is offered only as complete assemblies.

#### SPECIAL CONSTRUCTED WIRE ROPES

Stainless steel or special constructed wire rope is available on application.

#### LONGER LIFTS

Hoists with longer lifts than those listed in the catalog are available on application.

Shallow grooved drums are not available.

#### ACID RESISTANT

Acid resistant hoists are available on application. Application and atmospheric conditions must be specified.

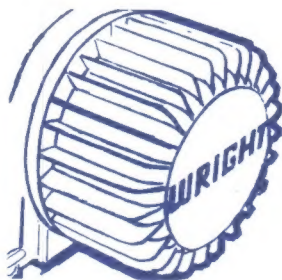
#### HAZARDOUS LOCATIONS

There is no code covering spark resistant mechanical components. However, spark resistant features are available on application. Specifications must originate from the purchaser. Bronze wheels, stainless steel wire rope, aluminum hand chain, and bronze hooks are available for these applications.

Hoists for use in hazardous locations are available with optional NEMA Types 7 or 9 controls. These controls meet the requirements of the National Electric Code as covered in "D" controller of this section.



#### GENERAL POLICY



#### DRAWINGS

Two copies of standard dimensional data and wiring diagrams or one sepia reproducible will be furnished, upon request, to the Buyer without charge if request is made within 30 days from receipt of purchase order.

Additional copies of standard prints or reproducibles are available at extra cost.

#### TESTING

1. All hoists are tested in accordance with Acco's standard procedure, which complies with industry standards and Federal regulations.

2. Three copies of test certification will be furnished at no additional cost if request is made at the time of the purchase order.

3. Special testing is available on application.

#### SERVICE MANUALS

Two copies of the standard maintenance and parts manual will be furnished and included in the shipment, where possible, without charge as standard policy for each item of equipment covered on Buyer's purchase order.

Additional copies of standard manuals are available at extra cost. Special format manuals are available on application.

#### PAINTING

All products are painted with a mustard yellow air dry alkyd enamel, lead free, dual purpose paint serving as both prime and finish coat. Minimum coat thickness two mils. Colors other than standard and paint for acid and other environmental conditions are available on application.

#### EXPORT PACKAGING

Export packaging is available for all equipment on application.

#### SPECIAL TAGGING

Special tagging for all products is available. Price on application.



### Material Handling Group

1110 East Princess Street, York, PA 17403  
Telephone (717) 843-1523 Telex 84-0411  
FAX (717) 846-5387

Downey, California

12140 Bellflower Blvd., Downey, CA 90241  
Telephone (213) 862-8101 Telex 69-8196